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THE USE OF A TOUCH COMPUTER SYSTEM FOR DISTRIBUTING INFORMATION TO VISITORS AT THE 1982 WORLD'S FAIR

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ABSTRACT

The use of computers to increase efficiency of operations is becoming a well recognized method in the leisure industry. This study examined the use of computers to provide information to visitors of the World's Fair about the Knoxville area to help improve service. Findings indicate that the developed method is an effective aid, but to increase its effieiency the system must be more consumer oriented.

THE USE OF A TOUCH COMPUTER SYSTEM FOR DISTRIBUTION INFORMATION TO VISITORS AT THE 1982 WORLD'S FAIR

INTRODUCTION

The use of computers in leisure businesses is becoming an essential and well recognized method of increasing personnel efficiency and saving time. However, a use for computers that is less-often thought of is the dissemination of information to assist customers in the selection of products and services. At the 1982 World's Fair in Knoxville, Tennessee, the National Park Service used a "touch sensitive" interactive computer system to provide visitors (or in a sense, customers) with information on National Parks and other recreation areas in the Southeastern United States. Rather than using a typical computer keyboard to access information, the visitor would touch the front of the video screen to communicate with the computer.

It was anticipated that the number of tourists going to Knoxville for the World's Fair would markedly affect visitation to the Great Smoky Mountains National Park. The increase in visitation was expected for a number of reasons, including (a) proximity to Knoxville, (b) accessibility, and (c) promotion by tour brokers and travel agents in their brochures on the World's Fair. The interactive touch computer system (TDI) was viewed as a mechanism for calling tourists' attention to the variety of recreational opportunities available in the Knoxville area. If these alternative opportunities were widely distributed through the TDI system, the impact on the already congested Smoky Mountains might be reduced. Although the redistribution of visitors was an objective of using the TDI system for the National Park Service, the dissemination of information to customers in special event settings (e.g., a World's Fair) or places such as airports and motel lobbys might hold promise as a marketing tool in more conventional business operations.

This study evaluated the effectiveness of the interactive touch computer system (TDI) for distributing information to tourists about recreational facilities in the Knoxville area. A combination of interview and observational techniques were used to determine if visitors felt more comfortable using (a) a computer to acquire information, or (b) a more personal approach through Park Service employees who were available in the same area as the computer. This study did not determine which of the two alternatives was more credible, believable, or acceptable. Instead, the study determined whether there were preferences for or against the use of computer terminals in obtaining information about recreation facilities around the Knoxville area.

APPROACH

The questions asked of the World's Fair visitors were similar to those used by the manufacturer of the computer in a 1982 study at Stapleton Airport in Denver, Colorado. The World's Fair and Stapleton Airport studies were not comparable in that the socioeconomic characteristics of the participants (age, sex, etc.) were different. However, a nearly identical approach was used in both studies.

The following subject areas were addressed in the World's Fair study:

1. Ease of terminal use
2. Visitor information needs
3. Usefulness of information
4. Visitor preference
5. Visitor reaction
6. Visitor description

Each of these topics will be discussed, with suggestions for future studies, comparisons to the Stapleton Airport study, and discussion for possible application to business.

RESULTS AND DISCUSSION

Ease of Terminal Use

The overwhelming majority of people interviewed found the system easy or very easy to use (24.5% and 74.5%, respectively) and 99% did not find the information difficult to read. These results are similar to those of the Stapleton Airport study. There are, however, some important areas that might affect the market potential of such a system. The direct nature of question 1, whether the TDI system was easy to use, may have biased an individual's response. For example, the respondent may have been reluctant to admit that the system was difficult to use because such response would reflect a lack of technical understanding. To prevent such problems in the future, individuals deciding against using the equipment should be asked whether that decision was based on the system's presumed level of difficulty, or other preconceived attitudes and experiences that may inhibit its use. The system could also be tested regarding how things are displayed on the screen. For example, the contrast level and its adjustment could be varied to determine whether differences in sharpness would affect readability.

Visitor Information Needs

The majority of individual did not seek specific information (62.5%) from the TDI system. This contrasts to the Stapleton Airport study, which found 67% searching for specific information about ground transportation, luggage, ticketing, etc. Visitors to the World's Fair were apparently open to more random and unanticipated kinds of experiences, and their need for specific kinds of information were quite limited.

Only 20% of the visitors to the World's Fair found the kinds of information they were actually looking for. In the Stapleton Airport study, 82% found the information they were looking for. Again this difference in the data indicates differences between the two situations and the importance of understanding the kinds of information individuals seek in these situations.

The results clearly show that under different circumstances, the information requirements of people opting to use the TDI varied. Therefore, an important aspect of using the TDI type of system is to clearly identify market segments and priorities prior to its implementation. The information disseminated can then be used to further guide customers in their decisions.

Usefulness of the Information

The visitors were asked whether they thought the information they obtained would be useful immediately or in the future. Approximately 46% stated they would use the information later. Only 14% said the information could or would be used in the present, and 17% claimed that the information would never be of any use. In the Stapleton study, 56% said they would use the information later, 18% would use it in the present, and only 5% said they would never use the information.

The different results can be explained by examining the sample population at the World's Fair more closely. Most individuals who attended the World's Fair used the computer system to acquire general information that might be used later. However, when those visitors seeking specific information at the fair were examined separately, the results were similar to the Stapleton study. These individuals were apt to use the information in a present situation (Table 1).

Visitor Preference

Visitors at the fair who used the TDI were asked whether they preferred getting their information through a computer or through personal interaction. Forty-two percent preferred an interactive computer over a person. Thirty percent of the individuals had no preference for either a personal approach or a computerized system. When this same question was analyzed for only those people seeking specific information, there was no significant difference between communication source and seeking information (Table 2). This finding implies that there is a need to investigate whether personal interaction in various settings (e.g., park, airport, special events) are an important part of the users experience.

A follow-up on this question was done in the survey by asking the visitors whether, after using the interactive system, they needed to go to an NPS employee at the desk to obtain more information. Sixty-two percent said there was no need for them to go to the NPS desk for additional information while 37% stated they needed to do so. Table 3 shows that the individuals who felt they needed to ask for additional information from the desk personnel were the same visitors that sought specific information.

Visitor Reaction

Visitors were asked to give their opinion of the information provided by the TDI system. Approximately 59% of the respondents found the information innovative. In the Stapleton Airport study, 70% found the information innovative. The percentage difference between these two studies was not significant. How messages are presented affects an individual's perception of the information provided. Therefore, the users' judgments concerning the information provided should be investigated in more detail.

Visitor Description

TDI users were asked whether they planned to visit a national park in conjunction with their World's Fair visit. Approximately 45% of the respondents said they planned to visit a national park, while 40% responded "no". Visitors who planned to visit a national park were cross-tabulated with visitors who were seeking specific information. The results are given in Table 4. The relationship was significant in that

those visitors planning to visit a national park did indeed want specific information. That is probably why they were motivated to use the TDI system.

When asked whether the computer influenced a visitor's decision to visit a national park, 84% stated it did not have any influence.

In evaluating the social-demographic characteristics of the visitors, the younger age group tended to be more receptive toward the use of the touch-sensitive system (Table 5). These results were quite similar to the Stapleton Airport study, although the age breakdown at the World's Fair tended to include a younger age group. Future applications of the TDI, especially in a business setting, obviously should include a more detailed analysis of potential users of the system. Clearly, the younger individual was more receptive than the older individual. As a large population of young, computer literate individuals reach their peak purchasing years, the impact of this technology for displaying consumer options will become immense.

FUTURE APPLICATIONS

The potential utility of the TDI system is promising. Based on the results of this study, several guidelines can be established.

It is vitally important that the information needs of the TDI user (the customer or park visitor) be clearly understood for the system to be successful. The system should be interactive and flexible. Programmers must be able to anticipate many questions coming from a variety of persons and sort from those questions the ones that are most likely to occur. This places a burden on the personnel who intend to make use of such hardware since they must be able to anticipate the most likely requests for information. Even if these requests are identified, the customer/visitor may need to ask additional questions of personnel. Hence, the system may not result in a savings of personnel costs.

Flexibility in responding to a wide range of queries is much easier through humans than impersonal machines. For example, a person at an information desk may not know the answer to a specific question, but can communicate with the visitor on a personal level to discuss the situation and offer possible avenues or sources that may provide the answer to that question. The touch information system does not have that kind of personal interaction and flexibility, and it may be an impossible demand to make on such equipment. Nonetheless, the ability to selectively distribute information provides managers with a powerful tool for influencing visitors' choices (e.g., of equipment, trails, facilities, etc.).

Additional testing of this type of equipment for specific business applications should occur. The possibilities for innovative marketing applications are limitless. However, unless site specific testing occurs, only best guesses on who, how, and in what manner people react to the information contained on these machines is possible.

TABLE 1

RELATIONSHIP BETWEEN WHEN VISITORS USE THE INFORMATION AND WHETHER THEY ARE LOOKING FOR SPECIFIC INFORMATION

	When will you use the information				
	I don't know	Never	Later	Now	Total
No	9.0	13.0	33.0	4.8	60.1
Yes	7.4	5.3	16.5	10.6	39.9
TOTAL	16.4	18.6	49.5	15.4	100.0

TABLE 2

RELATIONSHIP BETWEEN VISITORS PREFERENCE FOR THE MEDIUM OF ACQUIRING INFORMATION AND WHETHER THEY ARE LOOKING FOR SPECIFIC INFORMATION

		How would you prefer getting information?			
		No Preference	Person in Booth	Computer Interactive	Total
Were You Looking For Specific Information	No	22.0	15.0	24.5	61.5
	Yes	8.5	12.5	17.5	38.5
	TOTAL	30.5	27.5	42.0	100.0

TABLE 3

RELATIONSHIP BETWEEN VISITORS FEELING THEY NEED MORE INFORMATION AFTER USING THE COMPUTER AND WHETHER THEY WERE SEEKING SPECIFIC INFORMATION

		After Using the Interactive Computer		
		No	Yes	Total
Looking for Specific Information	No	45.5	16.0	61.5
	Yes	17.0	21.5	38.5
	TOTAL	62.5	37.5	100.0

TABLE 4

RELATIONSHIP BETWEEN LOOKING FOR SPECIFIC INFORMATION AND VISITING A NATIONAL PARK

		Do You Plan to Visit a National Park		
		No	Yes	Total
Looking For Specific Information	No	35.3	25.9	61.2
	Yes	11.8	27.0	38.8
	TOTAL	47.1	52.9	100.0

TABLE 5

AGE OF VISITORS

	Frequency	Percent
Less than 13 years	9	4.5
13-19	12	6.0
20-39	128	64.0
40-59	35	17.5
Over 60 years	16	8.0
TOTAL	200	100.0

TABLE 6

SIZE OF VISITORS COMMUNITY OF RESIDENCE

	Frequency	Percent
Less than 5,000	24	12.0
5,000-10,000	16	8.0
11,000-25,000	39	19.5
26,000-50,000	43	21.5
51,000-150,000	23	11.5
151,000-250,000	21	10.5
251,000-500,000	13	6.5
501,000-1,000,000	11	5.5
Greater than 1,000,000	2	1.0
No Response	8	4.0
TOTAL	200	100.0